

**ABSTRACT OF THE DISCLOSURE**

A method for forming a uniform bottom electrode in a trench of a trench capacitor. A semiconductor substrate has a dense trench area and a less dense trench area with a plurality of 5 trenches formed in both areas respectively. A hard mask layer is formed on the semiconductor substrate, and the trenches are filled with the mask layer. The hard mask layer is etched at an angle until the dense trench area and the less dense trench area in the semiconductor substrate are exposed to leave 10 the hard mask layer in the trenches. Finally, the hard mask layers in the trenches are etched, and a uniform thickness of the hard mask layer in each trench is achieved.